Specification Amendments

Please replace the paragraph beginning on line 10 page 11, with the following re-written paragraph:

In one embodiment, the modifier copolymer depolymerizes when exposed to radiation and is vapor developable, for example by a self-development or baking development method. Preferably, the matrix polymer is selected such that it does not interfere with the modifier polymer when exposed to radiation, for example avoiding cross-linking at the exposure wavelength. In addition, the matrix polymer is advantageously selected to be compatible with the modifier polymer and provide a sufficiently different removal rate[[s]] in exposed versus unexposed portions of the radiation sensitive polymer layer in a subsequent development process, for example to obtain an improved surface planarity of the radiation sensitive polymer layer. There are a wide variety of radiation sensitive polymer materials commonly known in the lithography art including at least one matrix polymer and at least one modifier or co-polymer, also referred to as resists, which undergo a photochemical change upon exposure to radiant energy thereby altering a material removal rate or material shrinkage rate in a subsequent development process.

Please replace the paragraph beginning on line 9 page 12, with the following re-written paragraph:

Following deposition of the radiation sensitive polymer layer 28, for example a photoresist, including an optional softbake step below a glass transition temperature, the topography of the radiation sensitive polymer layer is measured, for example by interferometry or by profilometry. A radiation dose necessary to achieve a desired topography following a subsequent development process is determined, for example improved photoresist layer planarity. Depending on the development method, for example, chemical dissolution, vaporization, self-development, baking, or ablation, including laser ablation or dry etching, a material removal rate or thickness change rate is preferably determined in response to a radiant energy exposure dose delivered over a selected thickness portion of the radiation sensitive polymer layer. For example, in one embodiment, a height difference of a positive acting resist layer is determined with respect to relatively thinner areas of the resist layer to determine a desired radiation dose to selectively deliver to the relatively thicker areas to thereby increase a dissolution rate of a predetermined thickness portion

the relatively thicker areas in a subsequent development process. [[f]]For example, in the subsequent development process, development is carried out to remove predetermined thickness portions of the resist layer to improve the planarity of the resist layer.

Please replace the paragraph beginning on line 14 page 16, with the following re-written paragraph:

Following forming the controlled radiant energy exposure mask to transmit a predetermined radiant energy dosage, an exposure process is carried out using conventional apparatus and exposure methods. For example, the predetermined radiant energy dosage may be selectively delivered to selected portions of the radiation sensitive polymer layer through the controlled radiant energy exposure mask using conventional alignment and exposure methods. For example, preferably, a step and scan method using one of a mirror projection alignment method, a proximity alignment method, a contact alignment method, and the like, may be used. A step and stitch method may be suitably used as well.

Please replace the paragraph beginning on line 12 page 21, with the following re-written paragraph:

Referring to Figure 5 is shown a process flow diagram including several embodiments of the present invention. In process 501, radiation sensitive polymer layer such as a resist is provided. In process 503, the thickness topography of the resist layer is determined. In process 505, a desired radiant energy exposure (dosage) of the resist layer is determined to produce a subsequent thickness following a development process, for example, to improve a surface planarity. In process 507, the resist is exposed to radiant energy through an exposure mask tailored to have the desired radiant energy exposure (dosage). In process 509, the resist is developed to produce the subsequent thickness topography of the radiation sensitive polymer layer, for example, to improve a surface planarity. As indicated by directional arrow 511, processes 503 through 509 may optionally be repeated.